

REMARKS

Claims 1-4 are pending in the application. Claims 1 and 3 are rejected. Claims 2 and 4 are objected to but would be allowable if placed in independent form.

Specification

The title of the invention is objected to as not being descriptive of the invention. The Examiner suggests that the title read “Resin Casing Having Slits Interposed Between A Bearing Housing.” Applicant agrees with a change in the title but believes that the proposed title is unreasonably restrictive. Applicants propose “A Bearing Structure Having A Resin Case With Axial Slit.”

As to the Examiner’s request to correct errors in the specification, Applicants are not aware of any but would make appropriate changes should errors be brought to their attention.

Claim Rejections – 35 USC 103

Claim 1 [and presumably claim 3, although it is not mentioned] is rejected under 35 USC 103(a) as being unpatentable over the Applicants Prior Art (APA) and further in view of Van Dorn et al (3,679,279). This rejection is traversed for at least the following reasons.

The Examiner asserts that the APA (presumed to be JP 2002-125346) teaches all that is claimed in claim 1 except for the use of a case that is interposed between a bearing housing and an outer ring of the bearing structure. The Examiner asserts that Van Dorn et al discloses a blank of elastomeric material that is interposed between a bearing housing and an associated outer bearing ring 33, with reference to Figs. 2., 4-9 and 12. This analysis is in error for the following reasons.

First, the known vehicular alternator as disclosed in JP 2002-125346, particularly Fig. 6, uses **annular grooves** 32a that are machined into the outer peripheral surface of the outer ring, resulting in a plurality of **resin bands** 36 for the purpose of creep prevention. Moreover, the resin bands are not arranged along the entire axial length of the bearing but in a partial area alone. This results in bearing creep, leading to wear and damage of the bearing housing. There is no recognition in the APA of a need or use of a case with one or more axial slits that is disposed between a bearing housing and an outer bearing, or even the problem of providing an

interface between a bearing housing and an outer bearing that prevents creep. Thus, the APA is deficient for more reasons than presented by the Examiner.

Second, the structure taught by Van Dorn et al in Figs. 2, 4-9 and 12 is wholly inapplicable to the present invention as the blank 10 is made of metal and is roll formed from flat stock or cut from tubular stock (col. 1, lines 71-75). The Examiner's statement that the case is of an elastomeric material is not correct. Indeed, since the blank 10 is made of metal, there is a requirement for an elastomeric material 36 that is introduced to fill the radial space between the blank 10 and the outer bearing ring, as disclosed at col. 2, lines 50-68. Indeed, the patent teaches that extreme care must be taken to assure against forming of leaving elastomeric material on the surface of the outer surfaces of segments 19-21. Clearly, there is no contemplation of the use of a "resin case," as claimed. The resin case is less expensive to make and avoids the need for separate processing steps. Moreover, the resin case permits the entire surface of the case to act as a secure interface between the housing and bearing, a feature not found in Van Dorn et al.

Third, there is no teaching or motivation to modify the structure of the APA, with its radial grooves 32a formed in the outer surface of outer ring 32 and filled with a separate material 36, to have the metal case of Van Dorn et al. Indeed, the two references take completely different approaches to securing the outer ring surface to an inner bore. The APA uses annular rings of material 36 to secure the bearing structure, while Van Dorn et al uses axial fingers to clamp the two structures. The rings secure by the compression of the material 36 while the fingers secure by spring action of the fingers 19-21. Each of these wholly different approaches to securing the outside of a bearing structure to the inside of a bore do not suggest use of the other approach, and in fact, demonstrate a clear rejection of the other approach.

Fourth, even if the two teachings are combined, there is still no use of a resin case having an axial slit, as set forth in claim 1.

With regard to claim 3, which depends from claim 1 and concerns the use of a ring-shaped packing 33 formed along the edge portion of an opening of the bearing housing and integrally molded with the case, the Examiner refers to element 52 in Fig. 9 of Van Dorn et al. This structure is described at col. 3, lines 40-51 of the patent as intended to provide rigidity to the case 10 prior to molding in the elastomeric material. There is no teaching or suggestion that the

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material is used for packing. Moreover, the flange is made of tubular ductile stock and is not made of a rubber material, as claimed. Thus, for the reasons already given for claim 1, as well as the above mentioned differences, the claim should be considered patentable.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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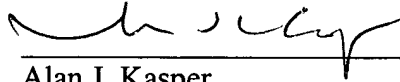
Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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CUSTOMER NUMBER


Alan J. Kasper
Registration No. 25,426

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